

Much of the  
Issaquah Valley  
is located in  
the 100-year  
floodplain...



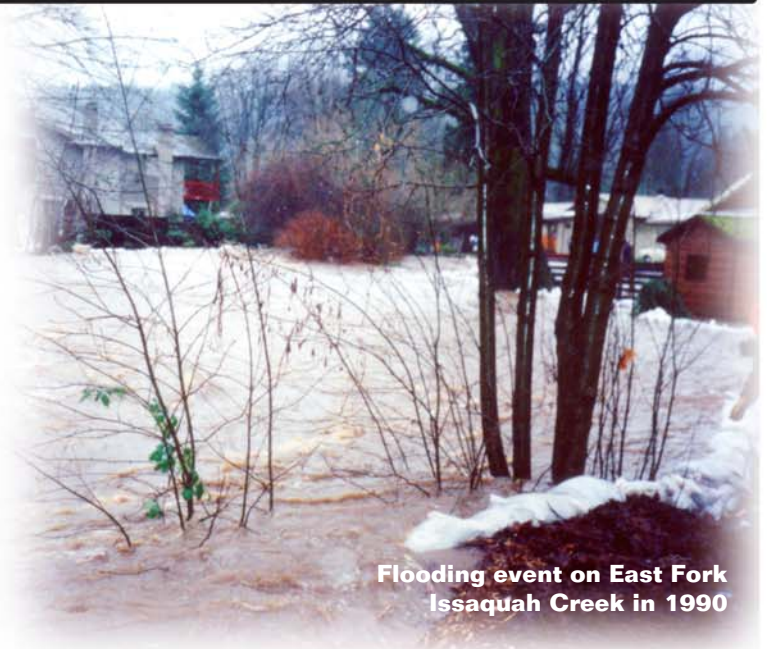
Floodplain on lower  
Issaquah Creek

## **Flooding in Issaquah**

### **Information & Resources**

... including over  
350 buildings.

**ARE YOU ONE  
OF THEM?**



Flooding event on East Fork  
Issaquah Creek in 1990

# History of Flooding in Issaquah

Historically, areas within Issaquah that are located along streams and prone to flooding were developed as farmlands, which are only minimally affected by high water. Early newspaper accounts wrote of flooded farmlands, washed out roads, and an occasional flooded basement.

However, as development progressed to the edges of streams, and bridges were built for roads, flood impacts and damages increased. Flooding now affects large areas of Issaquah, which until only a few decades ago was farmland, impacting commercial and residential properties.

The recent history of significant flooding along Issaquah Creek and Tibbetts Creek began in 1975 with a flood event that was then called the largest since 1933. However, it was not until 11 years later, in 1986, that the next major event occurred. This flood event was then followed by two large events in 1990 and another in 1996. None of these floods were larger than a 25-year event.

While not the largest flood in its history, the February 1996 flood was the most damaging. This flood impacted both commercial and residential areas, and total flood losses exceeded \$3 million. (Only \$1 million was covered by flood insurance, however). That flood ranked as only a 20-year event, or about 3500 cubic feet

per second at the stream gauge on NW Sammamish Road. The 100-year flood discharge is 4700 cfs, which would result in much greater damages should it occur.

Since 1996, no significant floods have occurred. *However, the threat of severe flooding remains and citizens should remain prepared.* High water and flooding most commonly occur from October through April during periods of intense rainfall or rapid snowmelt. Flooding conditions typically occur when rainfall exceeds about 4 inches in 24 hours and the ground was frozen or saturated prior to the rain event.

## What is a 100-year Flood?

The term "100-year flood" is misleading. It is not the flood that will occur once every 100 years. Rather, it is the flood elevation that has a 1- percent chance of being equaled or exceeded each year.

Thus, the 100-year flood could occur more than once in a relatively short period of time. The 100-year floodplain - the area predicted (using hydraulic modeling) to be inundated by the 100-year flood - is used as a standard for floodplain management and flood insurance.

## The City's Flood Management Efforts

Since much of the City is located in a floodplain, it would be very difficult for the City to eliminate flooding. Nevertheless, there are many actions that the City has taken in recent years to manage flooding and reduce flood hazards. The overall approach to managing flooding in Issaquah includes the following:

- Purchase and remove homes in the floodplain and purchase and preserve undeveloped lots.
- Improve stream channels in areas of high flood losses.
- Replace bridges that cause flood constrictions.
- Provide information on flood hazards and preparedness to City residents.
- Encourage property owners to floodproof homes & purchase flood insurance.

Over the past 10 years and continuing into the future, the City, other public agencies, and large property owners will have invested tens of millions of dollars in capital improvements that have a direct benefit towards reducing flooding in Issaquah.

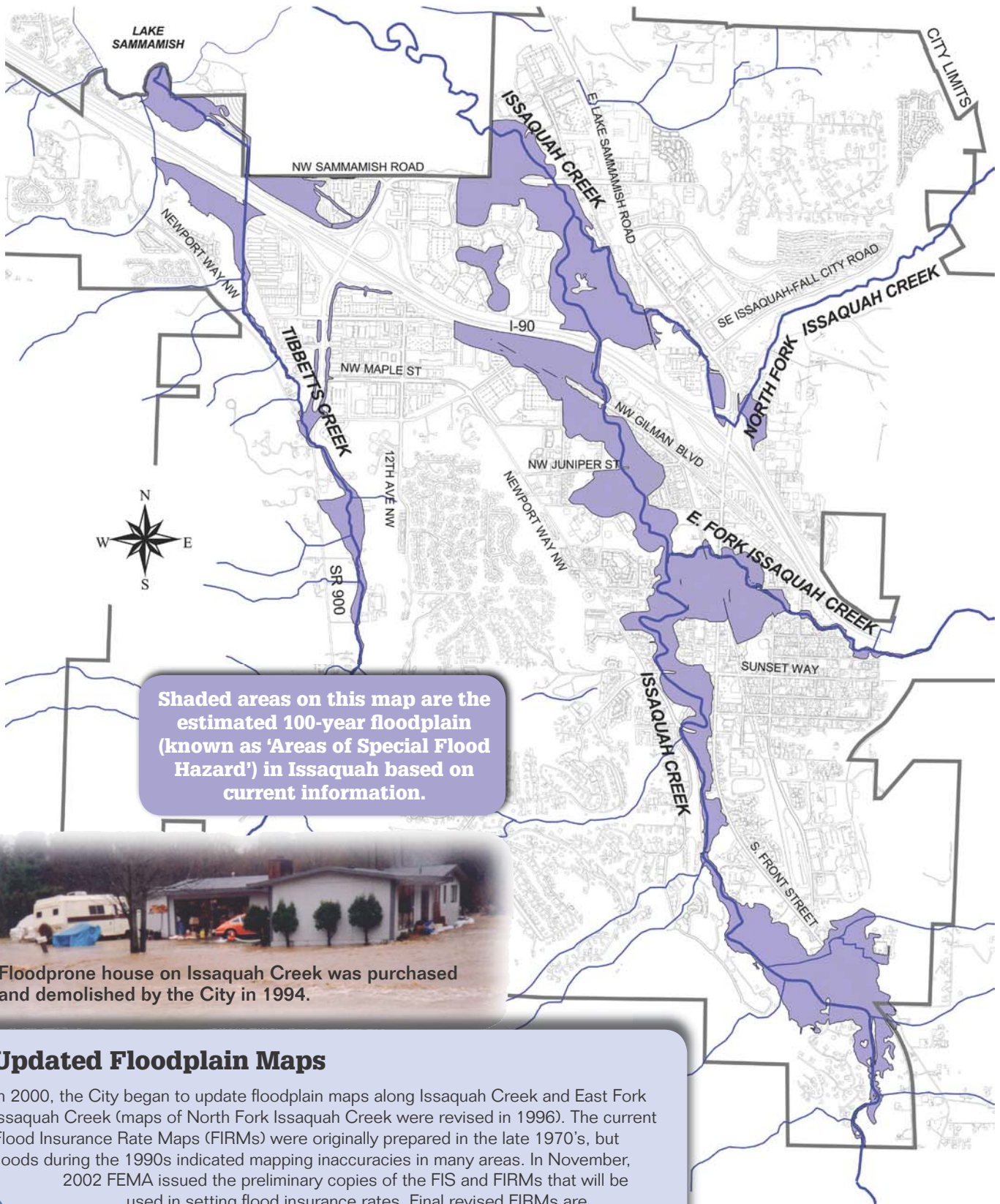
Examples include: buyouts of five flood-prone homes and many undeveloped lots for open space preservation, large flood improvement projects on Issaquah Creek and Tibbetts Creek, replacement of six major bridges, development of a flood warning system, improved floodplain mapping information, and a 25% discount on flood insurance premiums to property owners and residents as a result of the City's participation in FEMA's Community Rating System.



## Building in a Floodplain?

In general, most development activities are allowed in floodplains if built to floodplain standards. These standards include very specific building requirements such as raising the first floor elevation, including basement, plus utilities to one foot above the 100-foot flood elevation, and mitigation requirements to ensure that development does not cause flood elevations to rise on neighboring properties (i.e. no net fill and no blockage of floodwaters). However, residential and commercial development is not allowed in floodways. If a structure located in a floodway is significantly damaged (more than 50% of the value of the structure) it cannot be rebuilt.







# Flood Warning System

The Issaquah Flood Warning System provides residents with a way to obtain information on impending floodwaters so that they can take proper defensive actions and prepare themselves before serious flooding occurs. Depending on a resident's location and the extent of the flooding, the system can usually provide 3 to 4 hours lead-time.

The City of Issaquah posts flood phase information on the City's Emergency Information Line. This information is updated as conditions change (see phone numbers, page 7). The Issaquah Flood Information System does not take the place of individuals and neighborhood groups making their own flood disaster plan. Issaquah residents are encouraged to keep informed of changing stream conditions and make early preparations in case of major flooding. The upstream gauge reading that determines the flood phase is based on the height of the U.S. Geological Survey stream gauge in Hobart. Flood readings at this location give a 3-hour advance warning on what flood conditions will be like in Issaquah. The flood stage reading at Hobart can be obtained real-time from the U.S.G.S. web site (see backpage for link).

## Flood phases:

Increasing order of severity  
and response actions

	PHASE I	PHASE II	PHASE III	PHASE IV
EXTENT OF FLOODING	<ul style="list-style-type: none"><li>• Insignificant</li><li>• Flood Watch Phase</li></ul>	<ul style="list-style-type: none"><li>• Minor to moderate flooding</li><li>• High water in flood-prone areas</li></ul>	<ul style="list-style-type: none"><li>• Major flooding on Issaquah Creek, Tibbetts Creek, and the East Fork of Issaquah Creek</li><li>• Flooding in most creekside areas</li></ul>	<ul style="list-style-type: none"><li>• Extreme flooding similar to February 1996 or greater</li><li>• Extensive flooding Issaquah and Tibbetts Creek Valleys</li></ul>
ISSAQUAH CREEK LEVEL	<ul style="list-style-type: none"><li>• Upstream gauge reads 6.0 feet with a rising trend</li><li>• Rains expected to continue</li></ul>	<ul style="list-style-type: none"><li>• Upstream gauge reads 7.0 feet and rising</li></ul>	<ul style="list-style-type: none"><li>• Upstream gauge reads 8.0 feet regardless of trend</li></ul>	<ul style="list-style-type: none"><li>• Upstream gauge reads 8.5 feet regardless of trend</li></ul>
ACTION BY CITY	<ul style="list-style-type: none"><li>• Public Works and Police Dept. notified</li><li>• Stand-by monitoring begins</li><li>• City Emergency Information line activated</li></ul>	<ul style="list-style-type: none"><li>• Public Works Operations &amp; Maintenance Dept. begins flood fighting activities. Truck route closed, use detour</li></ul>	<ul style="list-style-type: none"><li>• Full flood fighting effort in effect</li></ul>	<ul style="list-style-type: none"><li>• Maximum flood fighting effort in effect</li><li>• City prepares for possible disaster</li></ul>
ACTION BY RESIDENT	<ul style="list-style-type: none"><li>• Prepared with household flood strategy</li><li>• Monitor City Emergency Information line and weather reports</li></ul>	<ul style="list-style-type: none"><li>• Initiate household flood strategy</li><li>• Monitor City Emergency Information line and weather reports</li></ul>	<ul style="list-style-type: none"><li>• Evacuate, if necessary</li><li>• Monitor City Emergency Information Line</li><li>• Block basement drains</li></ul>	<ul style="list-style-type: none"><li>• Evacuate, if necessary. If not, be ready to withstand the full extent of the flood with ample supplies.</li></ul>





Flood insurance is required if you get federally-backed financing to buy, build, or improve a structure in a 100-year floodplain. Lending institutions that are federally regulated or federally insured must determine if the structure is located in a SFHA (Special Flood Hazard Area - the 100-year floodplain) and must provide written notice requiring flood insurance. In addition to insuring structures, flood insurance is also available for building contents for both owners and renters. The Federal government subsidizes flood insurance to make it affordable.

### **Q** How do I get flood insurance?

**A** To buy a flood insurance policy, call your insurance agent or contact the National Flood Insurance Program (NFIP) to obtain the name of an agent in your area who writes flood insurance policies. 1-888-FLOOD29.

### **Q** How do I get a copy of the flood insurance map for my area?

**A** Maps are available for viewing at the Permit Center, located in City Hall NW at 1775 12<sup>th</sup> Avenue NW. Call the FEMA Map Service Center at 1-800-358-9616 if you want to purchase one. Each map is \$.50 and each order is \$2.50 for shipping and handling. Detailed work maps that were used to create the Flood Insurance Rate Map are also posted on the City's web site: [www.ci.issaquah.wa.us](http://www.ci.issaquah.wa.us)

### **Q** Should I buy flood insurance if it is not required, such as if I own my house free and clear?

**A** We recommend that all property owners, if located in the mapped 100-year floodplain, purchase flood insurance. It is the best means of recovery from flood damage. You will need to evaluate your own site conditions to determine whether flood risks are high enough to warrant insurance.



**The City of Issaquah takes action to prevent flood losses: Issaquah Creek channel improvements (1998) and NW Sammamish Rd. bridge replacement (1995).**

### **Q** I have lived here forever and have never been flooded. Why do I need flood insurance?

**A** Because of the infrequent occurrence of flood events, floodplain maps are based on a number of factors, to estimate the extent of a 100-year flood. The fact that a flood has not occurred within memory does not mean one will not happen in your neighborhood.

### **Q** What does the City do to make flood insurance more affordable?

**A** The City participates in the Community Rating System, which is a voluntary FEMA program that reduces National Flood Insurance Program (NFIP) premiums, if the City implements additional flood hazard management activities. The current Class 5 rating gives residents and businesses in the City a 25% discount on their flood insurance premiums.

### **Q** Do you have to be located in a floodplain to obtain flood insurance?

**A** No, flood insurance is available to any property owner or renter located in Issaquah. Many areas in Issaquah outside of the mapped floodplain are potentially susceptible to flooding, to varying degrees.

*\*For more information on FEMA and flood insurance, go to the web site: [www.fema.gov](http://www.fema.gov)*



# Flood Preparedness

## Before the Flood

- 1.** See if you are in a flood-prone area, based on previous experience (talk to your neighbors) or look at the attached map. More detailed mapping information is available from the Public Works Engineering Department.
- 2.** Get familiar with the Issaquah Flood Warning System, as outlined in this flyer.
- 3.** Each year, review what you need to do before, during and after a flood. This includes:
  - Make sure all family members know the emergency phone numbers.
  - Learn the safest route from your home or business to safe, high ground.
- Set up your own neighborhood notification network.
- Keep a portable radio, emergency cooking equipment, flashlights, fresh batteries, non-perishable food and drinking water on hand.
- 4.** Work with neighbors and share information on preparedness and previous experiences. Remember, the next flood may be greater than anything you have seen before.
- 5.** Take actions to minimize damages:
  - Store valuables at higher elevation (second story if possible).
  - Store household chemicals above flood levels.
  - Ensure that underground storage tanks are fully secure.
- Install floor drain plugs and septic backflow valves to prevent backflow of water into your home.
- 6.** Keep drains and grates on catch basins free of leaves and debris.
- 7.** Purchase flood insurance to protect your structure and possessions from flood damage losses. Homeowner's insurance typically doesn't cover flood loss.
- 8.** If your home has a history of flooding, be prepared to place sandbags around home. (See sandbag guidelines - pg. 7)
- 9.** Consider long-term measures to reduce flooding impacts, such as flood-proofing and elevating your house.

## During the Flood

- 1.** Keep a battery-powered radio tuned in to a local station. Follow all emergency instructions.
- 2.** If you are caught in your building by rapidly-rising waters, call 911 for help, then move to a higher floor. Take warm, weatherproof clothing, a flashlight, and a radio with you.
- 3.** Do not walk, wade, or drive in flooded areas. This is the most common cause of death in floods.
- 4.** If you evacuate by car, do not drive where there is water over the road. If your car stalls in a flooded area, abandon it as soon as possible and walk to safety from the direction you came.
- 5.** Block basement drains to prevent sewage and flood waters from entering your home.
- 6.** When flooding is imminent, and only if time and safety permits, close the main gas valve.
- 7.** Do not touch any electrical equipment unless it is in a dry area.

## After the Flood

- 1.** Before re-entering your home, check for structural damage that could cause building collapse. Be cautious of potential gas leaks, electrical shorts, and live wires.
- 2.** Document your losses, both in writing and with photographs.
  - If you have flood insurance, contact your agent for flood loss claims.
  - Follow procedures for safe cleanup of household items, food, water supply, and property. The King County Health Department has a brochure on cleanup procedures entitled "Emergency Measures for Flood-Stricken Premises."
- 3.** Contact the Building Department at 425-837-3100 regarding any questions on repairs which normally require a building permit such as foundation repairs, drywall and insulation replacement.

Being prepared is essential if you live in a flood hazard area. Make sure you plan ahead on what to do during a flood and have provisions stocked in case access is blocked.

## Procedures

- ☐ Family Rendezvous location
- ☐ Evacuation Routes
- ☐ Emergency Housing
- ☐ Pets/Livestock
- ☐ Flood Insurance
- ☐ Emergency Info
- ☐ Phone numbers near phone
- ☐ Sand and Bags

## Supplies

- ☐ Food & Drinking Water
- ☐ First Aid Kit
- ☐ Medicines
- ☐ Blankets, Warm Clothing
- ☐ Raingear/Waterproof tarp
- ☐ Portable Radio, Batteries
- ☐ Candles, Flashlight
- ☐ Shovels

## Sand Bags

The City delivers sand and bags upon request during normal working hours from October through April. This service is also available during phases II, III, and IV of a flood event. Citizens are encouraged to request and place sandbags prior to flooding.\*

## Instructions

- 1.** Place sandbags close (3 to 5 feet) to your structures. DO NOT place along property lines or along stream banks.
- 2.** Fill bags 2/3 to 3/4 full and interlock when stacking.
- 3.** Plan ahead for bag placement. Do not create a problem for your neighbors.
- 4.** Do not place bags or divert water onto a roadway or reroute a stream.
- 5.** Sandbag placement locations are subject to City approval.
- 6.** Sand and bag deliveries will be made as long as access to your property is safe.
- 7.** Sandbags are provided for the protection of your structures only. Do not attempt to divert waters from your property.
- 8.** Do not dump sand into the creek or on its banks—store for future use.
- 9.** The City does not collect used sandbags or sand on private property.

\* Failure to comply with these guidelines may result in the termination of sand bag service to your property.

## Emergency Phone Numbers\*

### Emergency:

**911**

### Public Works Operations:

**425-837-3470**

For assistance with drainage and flooding problems, Weekdays 7:30 – 4:00  
(24-hours during Phase II and higher flood phases)

### Sandbags & Stream Info:

**425-837-3470**

(24-hours during Phase II and higher flood phases)

### Flood Phase Info:

**425-837-3028**

Up-to-date information available on City Emergency Information Line, or on TV Channel 21.

### King County Health Dept:

Cleanup Procedures following flood events **206-296-4932**  
Household Hazards Information **206-296-4692**

\* When phoning, be prepared to give your name, address, and delivery location. Please remain calm and patient.





P.O. Box 1307  
130 E. Sunset Way  
Issaquah, WA 98027

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## Additional Flood-Related Resources

If you have any questions regarding any of the above, call the Public Works Engineering Department at 425-837-3400. They can provide information on floodplain management, development standards, floodplain maps, and other topics. Many other agencies have web sites with flood-related information:

- **City of Issaquah:** [www.ci.issaquah.wa.us](http://www.ci.issaquah.wa.us)
- **Take Winter By Storm (King County):** [www.govlink.org](http://www.govlink.org)
- **King Co. Dept. of Natural Resources & Parks:**  
<http://splash.metrokc.gov/topics/flooding/FLDtopic.htm>
- **King County Emergency Preparedness:** [www.metrokc.gov/prepare](http://www.metrokc.gov/prepare)
- **King Co. Heath Dept:** [www.metrokc.gov/health/disaster](http://www.metrokc.gov/health/disaster)
- **FEMA (Federal Disaster & National Flood Insurance Program):** [www.fema.gov](http://www.fema.gov)
- **National Weather Service:** [www.wrh.noaa.gov/Seattle/](http://www.wrh.noaa.gov/Seattle/)
- **US Geological Survey - Issaquah Creek at Hobart stream gauge**  
(current conditions for Flood Warning System upstream gauge height):  
<http://waterdata.usgs.gov/wa/nwis/uv/?station=12120600>
- **US Geological Survey - Issaquah Creek at Issaquah stream gauge** (current conditions):  
<http://waterdata.usgs.gov/wa/nwis/uv/?station=12121600>
- **US Geological Survey Flood Hazards:** [http://wa.water.usgs.gov/water\\_issues/flood.htm](http://wa.water.usgs.gov/water_issues/flood.htm)
- **U.S. Army Corps of Engineers:** [www.nws.usace.army.mil/](http://www.nws.usace.army.mil/)



A floodprone apartment complex on Issaquah Creek (minor 2001 flood).